(54) Title: PROJECTION OPTICAL SYSTEM
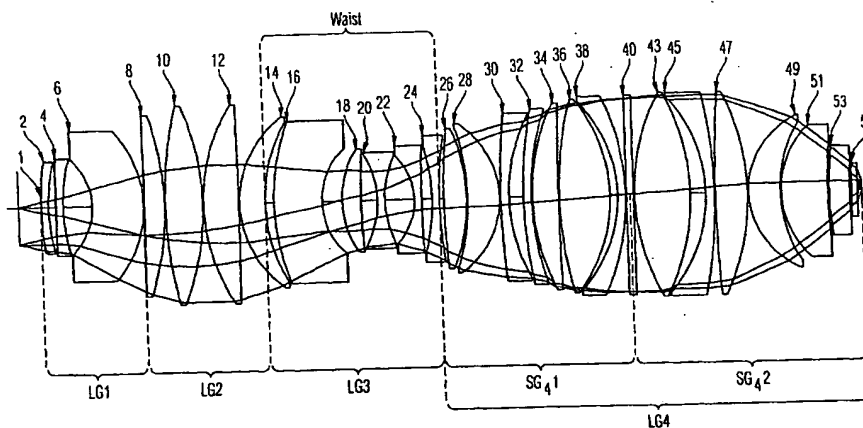
$$2 \cdot y \cdot NA \cdot \frac{1}{k} \cdot \sum_{i=1}^{k} |\varphi_i| \geq V_1 \quad (1)$$

(57) Abstract: A projection optical system comprises a plurality of lenses disposed along an optical axis of the projection optical system; wherein the plurality of lenses is dividable into four non-overlapping groups of lenses of positive and negative refractive powers, wherein the following relation (1) is fulfilled: (1) wherein: y is half a diameter in mm of a maximum image field imaged by the projection optical system, NA is a maximum numerical aperture on a side of the second object, φ_i is a refractive power in mm⁻¹ of the ith lens, k is a total number of lenses of the projection optical system, and wherein V_1 is greater than 0.045.

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— *of inventorship (Rule 4.17(iv)) for US only*

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.